Update to the LTMS Science Framework Document

=> Getting input into writing the update

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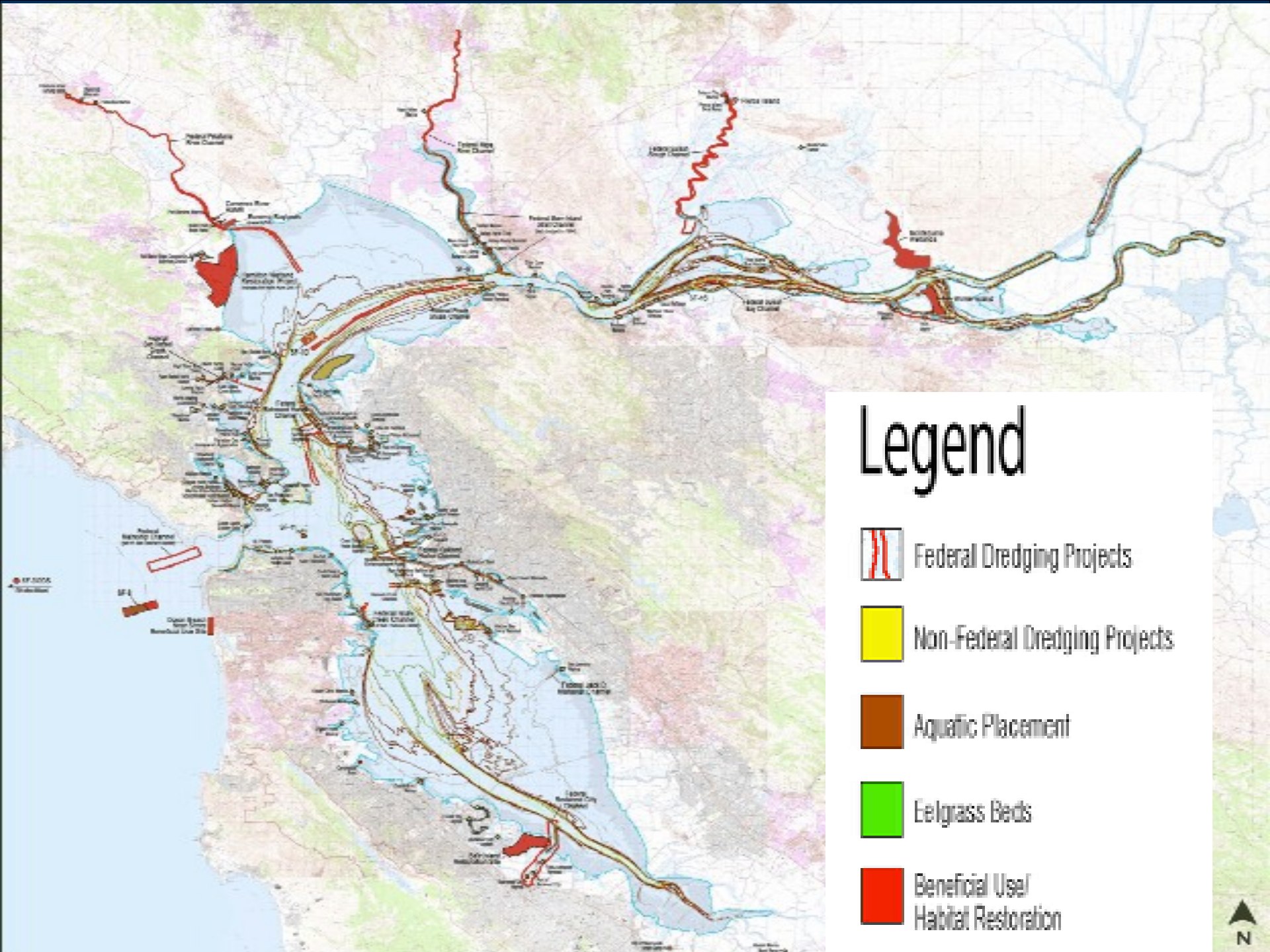
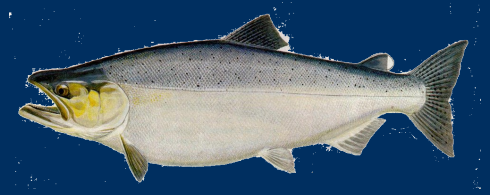
Letitia Grenier

Wednesday, December 8, 2010


Legend
Federal Dredging Projects
Non-Federal Dredging Projects
Aquatic Placement
Eelgrass Beds
Beneficial Use/
Habitat Restoration
N

Sensitive Species…



Chinook Salmon

Coho Salmon

Steelhead

Delta Smelt

Other species

Other fishes

Pacific Herring

Summary of Disposal Work Windows

Location & Designation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bar Channel (SF-8)												
Carquinez (SF-9)												
San Pablo (SF-10)												
Alcatraz (SF-11)												
Suisun (SF-16)												
Beneficial Reuse Sites												

Disposal Work Windows

Species	Site	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Chinook Salmon	SF-9 & SF-16												
Steelhead Trout	SF-9, SF-10, & SF-11												
Recreational Marine Fishes	SF-10 & SF-11												
California Brown Pelican	Within 300' of known roost site												
California Clapper Rail, Snowy Plover, Salt Marsh Harvest Mouse, Delta Smelt	Beneficial Reuse Site												
Delta Smelt	Suisun Bay & marshes (not SF-16)												
Least Tern	All eelgrass beds, or within 3 miles of nesting area at Alameda Naval Air Station												

(For more information, see Appendix F or the LTMS EIS/EIR)

WORK WINDOW

MINIMIZED DISPOSAL

CONSULTATION REQUIRED

LTMS Science Framework 2004

Work Group agreed to focus initially on fish species

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Final selection were listed (salmonids & delta smelt) or state species of special concern (Pacific herring) at the time that the study was undertaken

ted birds and mammals:

California Least Tern

California Clapper Rail

Salt Marsh Harvest Mouse

lewly listed fishes:

Green Sturgeon

Longfin Smelt

Dungeness Crab

Topic

Priority Ratings

TO BE UPDATED*

Topic	Chinook Salmon				Coho Salmon				Delta Smelt					Splittail				Steelhead Trout				Herring					
	NOAA	FWS	DFG*	BCDC	NOAA	FWS	DFG*	BCDC	NOAA	FWS		DFG	BCDC	NOAA	FWS	DFG	BCDC	NOAA	FWS	DFG	BCDC	NOAA	FWS	DFG			BCDC
										dredging	disposal													eggs	larvae	juveniles	adults	
Distribution	1		1	2	1		1	1		2	2				2		1	1		1	3			2	1	1	2	3
Behavior	1		3	1	1		3	2		1	1				1		1	1		3	2				2	1	1	1
Migration	1		1	2	1		1	3		3	2				2		1	1		1	3				2	2	2	3
Food sources	3		3(a)	1	3		3(a)	3		1	2				1		2	1		3(a)	3				2	2	3	1
Feeding	1		3(a)	1	1		3(a)	3		1	1				1		2	3		3(a)	2				2	2	3	2
Spawning	3		3	3	3		3	3		1	1				1		1	3		3	3						1	3
Development	3		2	3	3		2	3		2	2				2		1	3		2	1				1	1	1	1
Disturbance	1		2	1	1		2	2		1	1				2		2	2		2	2			1	1	1	1	1
Displacement	1		2	1	1		2	1		1	2				2		1	3		2	1			1	2	1	1	1
Avoidance	1		1	1	1		1	1		2	2				2		2	1		1	1				1	1	1	1
Entrainment	1		1(j)	1	1		1(j)	1		2	3				2		1	1		1(j)	1				1	1	3	2
Burial	3		3	3	3		3	3		2	1				2		3	3		3	3			1	2	3	3	2
Sedimentation	3		2	3	3		2	3		2	2				2		2	1		2	3			1	3	3	3	1
Noise	3		1	2	2		1	2		2	3				2		3	2		1	2				1	1	1	2
Sediment type	2		2	3	2		2	3		2	2				2		2	1		2	3			1	1	1	1	2
Habitat modification/loss	3		2	1	3		2	1		1	1				1		1	1		2	1			1	1	1	1	1
Turbidity (optical)	1		2	1	1		2	1		2	2				2		1	2		2	1			1	1	1	1	1
Suspended sed. conc.	1		1	1	1		1	1		1	2				2		1			1	1			1	1	1	1	1
Water quality (pH, NH3, etc.)	1		3	1	1		3	1		1	1				2		1			3	1			1	1	1	1	1
Toxicity	1		1	1	1		1	1		1	1				2		1			1	1			1	1	1	1	1
Pathway	2		1	1	2		1	2		2	2				2		1			1	1			1	1	1	1	1
Exposure	1		1	1	1		1	1		1	2				2		1			1	1			1	1	1	1	1
Bioavailability	1		1	1	1		1	1		2	2				2		1			1	1			1	1	1	1	1
Bio-accumulation	2		1	2	2		1	1		2	2				2		1			1	1			1	1	1	2	1

Table 7-1. Identified Studies, Phases, and Study Relationships

TO BE UPDATED*

Effect Category/ Topic	Salmonids	Delta Smelt	Herring	Study Code	Study Title
Biological					
Distribution	●			B-Dist-1	Determine Spatial and Temporal Distributions of Chinook and Coho Salmon in the Bay
Distribution	●			B-Dist-1	Determine Spatial and Temporal Distributions of Chinook and Coho Salmon in the Bay
Distribution	●			B-Dist-2	Determine Spatial and Temporal Distributions of Adult and Juvenile Steelhead in the Bay
Distribution	●			B-Dist-2	Determine Spatial and Temporal Distributions of Adult and Juvenile Steelhead in the Bay
Distribution			●	B-Dist-3	Determine Spatial and Temporal Distributions of Herring Larvae and Juveniles in the Bay
Distribution			●	B-Dist-3	Determine Spatial and Temporal Distributions of Herring Larvae and Juveniles in the Bay
Behavior					
Migration	●			B-Migr-1	Determine Critical Migration Routes and Periods for Salmonids

Project Team

- ***Science Review:***
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- ***Science Support:***
  April Robinson Environmental Analyst
- ***Project Management:***
  Sarah Lowe Project Manager
  Lawrence Leung Contracts Manager

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Meredith Williams EDIT Program Manager
Linda Wanzcyk Art Director
Joanne Cabling Designer

Goals of LTMS Science Framework Update:

- Revise Framework to reflect current special status species and environmental work windows in SF Bay area under LTMS jurisdiction
  - Potential effects on T&E species and other Species of Special Concern
  - Update management concerns and research questions
  - Update study priorities
  - Any lessons learned about process of developing scientific information for management decisions

Approach

- Potential effects
  - publications and gray literature
- Management concerns and priorities
  - interview agency staff and stakeholders
- Product
  - self-standing update to 2004 document
- Communication
  - presentation at LTMS Science Symposium, poster

Management Context: LTMS Management Plan

"Conduct dredging activities in the most environmentally sound manner"

Other Special Status Species in Same Habitat

Sp.		Status	Comments
Birds	Black Rail	State Threatened	Tidal marsh Sp.
	Western Snowy Plover	Federally Threatened	Nests on beaches and salt ponds
	Saltmarsh Common Yellowthroat	State Sp. of Special Concern	Tidal marsh Sp. (SF bay endemic)
	Suisun Song Sparrow	State Sp. of Special Concern	Tidal marsh Sp. (SF bay endemic)
	Alameda Song Sparrow	State Sp. of Special Concern	Tidal marsh Sp. (SF bay endemic)
	San Pablo Song Sparrow	State Sp. of Special Concern	Tidal marsh Sp. (SF bay endemic)
	Northern Harrier	State Sp. of Special Concern (Nesting)	Nests in SF Bay marshes
	Black Skimmer	State Sp. of Special Concern (Nesting)	Nesting colony in South Bay salt ponds
Mammals	Suisun Shrew	State Sp. of Special Concern	Tidal marsh Sp.
	San Pablo Vole	State Sp. of Special Concern	Tidal marsh Sp.
	Salt Marsh Wandering Shrew	State Sp. of Special Concern	Tidal marsh Sp.
Fish	Sacramento Splittail	State Sp. of Special Concern	Non-spawning - North Bay

Special Status Plants in Same Habitat

Plant Species	Status	Comments
Suisun thistle	Federally Endangered	freshwater marsh
Soft bird's beak	Federally Endangered	brackish/feshwater marsh
Mason's lileaopsis	State Listed - Rare	freshwater marsh

Management Context: LTMS Management Plan

"Maximize the use of dredged material as
a resource"

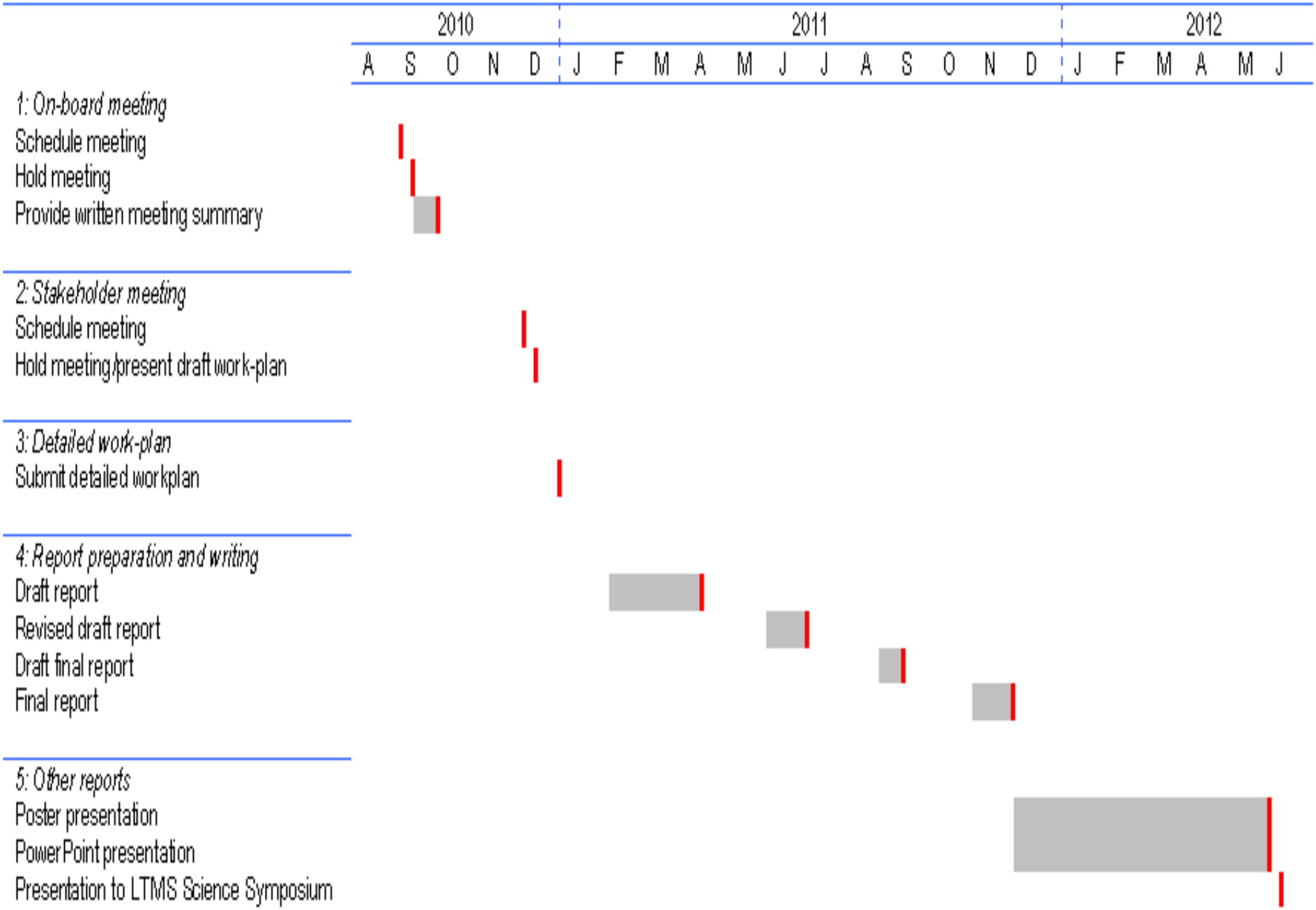
OPPORTUNITY
?

Beneficial Reuse Sites

Desired Outcome

Update LTMS Science Framework with new species

EFMS Science Update Overview

- Step 1: Stakeholder Input, Phase 1
- Step 2: Literature and local study review
- Step 3: Stakeholder Input, Phase 2
- Step 4: Report
- Step 5: Outreach

Tasks and Deliverables